

## Printer Networking Requirements

Allevi bioprinters are Internet-of-Things based devices that communicate with the Allevi servers over the internet. All communication to and from a device is transmitted securely between the printer and the Allevi Cloud. No unpermitted user or external third party can communicate with or control the internal applications running on the device - ensuring privacy for all transmitted data.

### Networking Overview

Allevi Printers are configured to connect to the internet over a wired ethernet connection or a wireless Wi-Fi connection. Standard WPA Personal networks (Wi-Fi/password) and WPA Enterprise (Wi-Fi/username/password) wireless networks are supported.

The following ports and domains should be accessible on the network:

- Ports:
  - 443 TCP – For secure communication to the cloud
  - 123 UDP – For NTP time synchronization.
  - 53 UDP – For DNS name resolution.
- Domains:
  - mqtt.googleapis.com
  - \*.balena-cloud.com
  - \*.docker.com
  - \*.docker.io
  - ntp.org
  - At least one of the following:
    - example.com
    - healthcheck.allevi3d.com
    - www.nist.gov

### Advanced Configuration

In some network setups, a MAC address may be required by the Network Administrator to provide the printer with access to a specific network. The MAC address can be obtained from the Allevi Wi-Fi Connect portal. Additionally, it can be obtained by reaching out to Allevi Support.

Allevi Printers are capable of more advanced networking setups and configurations. Please reach out to Allevi Support for more assistance with these.